

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>PCT109SUN</b>	<b>FOR FURTHER ACTION</b>		See Form PCT/IPEA/416
International application No. <b>PCT/JP2004/009772</b>	International filing date (day/month/year) <b>02.07.2004</b>	Priority date (day/month/year) <b>22.07.2003</b>	
International Patent Classification (IPC) or national classification and IPC <b>B32B27/30</b>			

Applicant

**TAIYO KOGYO CORPORATION**

<ol style="list-style-type: none"> <li>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</li> <li>2. This REPORT consists of a total of <b>5</b> sheets, including this cover sheet.</li> <li>3. This report is also accompanied by ANNEXES, comprising:           <ol style="list-style-type: none"> <li>a. <input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of <b>15</b> sheets, as follows:               <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</li> <li><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</li> </ul> </li> <li>b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</li> </ol> </li> </ol>																								
<ol style="list-style-type: none"> <li>4. This report contains indications relating to the following items:           <table border="0"> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table> </li> </ol>	<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
<input checked="" type="checkbox"/>	Box No. I	Basis of the report																						
<input type="checkbox"/>	Box No. II	Priority																						
<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability																						
<input type="checkbox"/>	Box No. IV	Lack of unity of invention																						
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement																						
<input type="checkbox"/>	Box No. VI	Certain documents cited																						
<input type="checkbox"/>	Box No. VII	Certain defects in the international application																						
<input type="checkbox"/>	Box No. VIII	Certain observations on the international application																						

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/009772

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

This report is based on translations from the original language into the following language \_\_\_\_\_ which is the language of a translation furnished for the purposes of:

- international search (Rule 12.3 and 23.1(b))
- publication of the international application (Rule 12.4)
- international preliminary examination (Rule 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

the international application as originally filed/furnished  
 the description:

pages 1, 2, 8-26 as originally filed/furnished

pages\* 3, 7 received by this Authority on 20.05.2005

pages\* 4-6/1 received by this Authority on 29.08.2005

the claims:

nos. \_\_\_\_\_ as originally filed/furnished

nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19

nos.\* 2-7, 10-14, 20-24, 29-31 received by this Authority on 20.05.2005

nos.\* 1, 8, 9, 19, 25, 26 received by this Authority on 29.08.2005

the drawings:

sheets Fig. 1-16 as originally filed/furnished

sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3.  The amendments have resulted in the cancellation of:

- the description, pages \_\_\_\_\_
- the claims, nos. 15-18, 27, 28 \_\_\_\_\_
- the drawings, sheets/figs \_\_\_\_\_
- the sequence listing (*specify*): \_\_\_\_\_
- any table(s) related to sequence listing (*specify*): \_\_\_\_\_

4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- the description, pages \_\_\_\_\_
- the claims, nos. \_\_\_\_\_
- the drawings, sheets/figs \_\_\_\_\_
- the sequence listing (*specify*): \_\_\_\_\_
- any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/009772

**Box No. V** **Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Claims <u>1-14, 19-26, 29-31</u>	YES
	Claims _____	NO
Inventive step (IS)	Claims <u>1-14, 20, 24-26, 29-31</u>	YES
	Claims <u>19, 21-23</u>	NO
Industrial applicability (IA)	Claims <u>1-14, 19-26, 29-31</u>	YES
	Claims _____	NO

**2. Citations and explanations (Rule 70.7)**

1. JP 9-207289 A (Nitto Denko Co., Ltd.), 12 August 1997
2. JP 10-44346 A (Nitto Denko Co., Ltd.), 17 February 1998
3. JP 2002-96434 A (Fuji Electric Corp.), 2 April 2002
4. JP 2002-282703 A (Toray Co., Ltd.), 2 October 2002
5. JP 2002-323484 A (Matsushita Electric Industrial Co., Ltd.), 8 November 2002
6. JP 9-76395 A (Toto Ltd.), 15 March 1997

**Claims 1-7**

Photocatalyst sheets comprising a base material, and a first fluororesin layer comprising PTFE coated on the base material, and a second fluororesin layer coated on the first fluororesin layer, and a third fluororesin layer comprising FEP containing a photocatalyst comprising titanium oxide, coated on the second fluororesin layer, are not disclosed in documents 1-6 and cannot be said to be obvious from the disclosures in documents 1-6.

**Claims 8-14, 20 and 24**

Photocatalyst sheets comprising a base material

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/009772

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

comprising fibreglass, and a first fluororesin layer coated on the base material, and a second fluororesin layer coated on the first fluororesin layer, and a third fluororesin layer containing a photocatalyst comprising titanium oxide, coated on the second fluororesin layer, wherein the melting point of the third fluororesin layer is lower than the melting point of the first fluororesin layer, are not disclosed in documents 1-6 and cannot be said to be obvious from the disclosures in documents 1-6.

#### Claim 19

Document 1 discloses photocatalyst sheets of a base material, a fluororesin layer coated on the base material, and a fluororesin layer containing a photocatalyst coated at least as the uppermost layer thereof.

Document 1 does not mention the feature of water repellence after exposure to UV radiation, or the feature that when photocatalytic sheets are joined by heating, the fluororesin layers are detached in their entirety from the base material when said join is detached at a speed of 20 mm/minute. However, no special difference can be identified between the invention set forth in claim 19 and the invention disclosed in document 1 in the base material or fluororesin(s) employed, and hence the restrictions in claims 19 are not deemed to result in any special difference in the materials obtained as such.

#### Claim 21

Setting numerical limits to the photooxidation capacity of the surface of the fluororesin layer in the invention set forth in claim 19 is within the ordinary competence of a person skilled in the art, from the

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/009772

Box No. V      Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement  
disclosure in document 4.

Claim 22

Setting numerical limits to the photoreduction capacity of the surface of the fluororesin layer in the invention set forth in claim 19 is within the ordinary competence of a person skilled in the art, from the disclosure in document 5.

Claim 23

Making the contact angle upwards of a set value when the surface of the fluororesin layer in the invention set forth in claim 19 has been made water repellent is within the ordinary competence of a person skilled in the art, from the disclosure in document 6.

Claims 25, 26 and 29-31

Photocatalyst sheets comprising a base material comprising glass fibre, and a first fluororesin layer comprising PTFE coated on the base material, and a second fluororesin layer coated on the first fluororesin layer and a third fluororesin layer comprising FEP containing a photocatalyst, comprising titanium oxide, coated on the second fluororesin layer, are not disclosed in documents 1-6 and cannot be said to be obvious from the disclosures in documents 1-6.